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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,823	01/07/2005	Hirohisa Tanaka	71465.00012	5058

7590

10/28/2005

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1901 L Street NW  
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EXAMINER
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NGUYEN, CAM N

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/520,823	<b>Applicant(s)</b> TANAKA ET AL.	
	<b>Examiner</b> Cam N. Nguyen	<b>Art Unit</b> 1754	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on January 07, 2005 (a 371 of PCT/JP03/0843).
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                                       |                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>originally filed</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### **Claim Objections**

1. Claim 8 is objected to because of the following informalities:

It is suggested that applicants delete the phrase "is further mixed" in line 4 and amend the claim in such as way to clearly recite that the catalyst further includes at least one thermostable oxide selected from the group consisting of ...

Appropriate correction is required.

2. Claim 23 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 1. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

There is no patentable distinction seen between the catalyst of claim 23 and the catalyst of claim 1.

### **Claim Rejections - 35 USC § 112 (Second Paragraph)**

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. *Claims 5 & 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.*

- A. Claim 5 recites the limitation "the thermostable oxide" in line 3. There is insufficient antecedent basis for this limitation in the claim.
- B. Claim 16 recites the limitation "the thermostable oxide" in line 2. There is insufficient antecedent basis for this limitation in the claim.

**Claim Rejections - 35 USC § 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. *Claims 1-3, 5, 7, 9-12, & 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al., "hereinafter Abe", (US Pat. 5,439,865) taken together with Kaneko et al., "hereinafter Kaneko", (US Pat. 6,800,388 B2) or Monceaux et al., "hereinafter Monceaux", (US Pat. 5,622,680).*

Abe discloses an exhaust gas catalyst, comprising: a heat-resistant inorganic carrier; a first catalyst layer loaded on said carrier, said first catalyst layer comprising a catalyst composition containing at least one noble metal selected from the group consisting of Pt and Pd, and active alumina, etc.; and a second catalyst layer loaded on said first catalyst layer, said second catalyst layer comprising a second catalyst composition containing active alumina and Rh loaded thereon, etc. (see col. 20, claim 11). Abe further discloses that the active alumina preferably contains a  $\theta$ -phase (see col. 6, ln 25-61).

Abe discloses the claimed catalyst, except for the perovskite-type composite oxide.

However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have incorporated by adding such known perovskite type composite oxide into the catalyst of Abe in order to achieve an improved catalyst, such as having high activity/selectivity which is capable of maintaining its high selectivity with the good stability even in the high temperature and oxygen sufficient atmosphere as taught by Kaneko and Monceux. Specifically, Kaneko and Monceux disclose the claimed perovskite composite oxide as follows.

Kaneko discloses a catalyst composition which comprises: a perovskite composite oxide having the formula  $ABO_3$  and the formula  $A'_{1-x}A''_xB'_{1-y}B''_yO_3$ , wherein  $A'$  is La, Ce or both,  $A'$  is at least one element selected from the group consisting of La, Ca, Sm, Ce, Sr, Ba and Pr,  $B'$  is at least one element selected from the group consisting of Co, Fe, Mn and Gd, and  $B''$  is at least one element of noble metals, etc. (see col. 18, claim 1). See also Table 3 in col. 15 & 16.

Monceux discloses a catalyst containing an active phase of the perovskite-type structure having the general formula:  $L_xL'_{1-x}M_yM'_zO_{3-y-z}$ , wherein L is an element selected from the lanthanides and the rare earth metals,  $L'$  is an element selected from Sr, Ca, Ba, Ce, K, Bi, Rb and Na, M is a transition metal selected from Cr, Mn, Fe, Co, Ni and Cu,  $M'$  is at least one metal selected from Pt, Ru, Pd, Rh, etc. (see col. 1, ln 40-57). See also Table II in col. 4, catalyst 9. The catalyst is deposited on a support and wherein the support is made of refractory material or metal (see col. 6, claims 4 & 5).

Art Unit: 1754

7. Claims 4, 6, 8, & 13-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al., "hereinafter Abe", (US Pat. 5,439,865) taken together with Kaneko et al., "hereinafter Kaneko", (US Pat. 6,800,388 B2) or Monceaux et al., "hereinafter Monceaux", (US Pat. 5,622,680), as applied to claims 1-3, 5, 7, 9-12, & 23 above, and in further view of Tan et al., "hereinafter Tan", (US Pat. 6,620,762 B2).

Abe discloses the claimed catalyst, except for the thermostable oxide.

It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have incorporated such known thermostable oxide into the catalyst of Abe in order to achieve a stable catalyst because it is known and taught by Tan (see Tan at col. 15- col. 16, claim 4). See also Tan at col. 15- col. 16, claims 1-3 & 5-9.

### **Citations**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All references are cited for related art. See PTO-892 Form prepared attached.

### **Conclusion**

9. Claims 1-23 are pending. Claims 1-23 are rejected. No claims are allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone

Art Unit: 1754

number is 571-272-1357. The examiner can normally be reached on M, W, R, & F, 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen/cnn *CNN*  
October 21, 2005

*Cam Nguyen*  
CAM N. NGUYEN  
PRIMARY EXAMINER

Art Unit - 1754